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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/053,083

01/24/2002

Abraham Liran

8891

7590

03/02/2004

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EXAMINER

RIOS CUEVAS, ROBERTO JOSE

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,083

Applicant(s)

LIRAN, ABRAHAM

Examiner

Roberto J Rios

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because applicant's residence and mailing *country* is not Los Angeles. Applicant is requested to replace with United States of America (USA).

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "electrically controlled coupling controlled by **a computer**" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:
 - In the Reference to Related Applications section, the specification discloses patents 6,020,657 and 6,204,572 having no assignee. However, the printed patent documents assign the patent to Perfect Power Inc.
 - In the Brief Description of Drawings section, applicant is required to limit the description to a brief explanation of the drawing and avoid using lengthy explanations of embodiments functionality.

Appropriate correction is required.

Claim Objections

5. The claims are generally narrative, failing to conform to current U.S. practice. They contain some grammatical and idiomatic errors. Applicant is also suggested to outline the steps of the claimed method in order to improve clarity of the claims. See cited prior art for examples of current claim drafting and format practices.
6. Claim 1 recites the electrically controlled coupling being controlled by a **computer**. The specification and the drawings disclose the electrically controlled coupling being controlled by a control unit (3). Applicant is requested to amend the claim to recite the electrically controlled coupling being controlled by a control unit.

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7. Claim 1 recites: "transferring the **right** amount of kinetic energy". This limitation renders the claim indefinite failing to clearly set forth the metes and bounds of the claimed invention. Applicant is suggested to replace said limitation to: "transferring an amount of kinetic energy".

8. Claim 1 recites: "in order to provide **accurate** and stable power". This limitation renders the claim indefinite failing to clearly set forth the metes and bounds of the claimed invention. Applicant is suggested to replace said limitation to: "in order to provide stable power".

9. Claim 2 recites the limitations "the flywheel motor" and "the common shaft". There is insufficient antecedent basis for these limitations in the claim.

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10. Claim 3 recites the limitation “the control unit”. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 3 recites: “providing **quality** electrical power”. This limitation renders the claim indefinite failing to clearly set forth the metes and bounds of the claimed invention.

Applicant is suggested to remove the word “quality” from said limitation.

12. Claim 4 recites the limitations “**the** shaft”, “**the** flywheel shaft”, “**the** synchronous machine shaft”. There is insufficient antecedent basis for these limitations in the claim.

13. Claim 5 recites the limitations “**the** stationary housing”, “**the** rotary housing”.

There is insufficient antecedent basis for these limitations in the claim.

14. Claim 6 recites: “to maintain **quality** power to the load”. This limitation renders the claim indefinite failing to clearly set forth the metes and bounds of the claimed invention. Applicant is suggested to remove the word “quality” from said limitation.

15. Regarding claim 6, the phrase “such as” renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 112

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites: "checking the phases". It is not clear which phases are supposed to be checked and the type of phases.

Claim 4 recites: "the use of an electrically controlled coupling". It is not clear if this is a different electrically controlled coupling than the previously recited on claim 1.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. It is unclear how the step recited in claim 5 is related to the steps of the method for providing continuous stable power to a load recited in claim 1. Moreover, the claim is drafted like an apparatus claim rather than a method claim. Applicant is suggested to rewrite the claim including a specific relationship between the stationary coil/rotating coil and the induction transformer; and how the claimed step is related to the method recited in claim 1.

Claim 6 recites: "the method of claim 1 further comprising the *possibility to*". This limitation renders the claim uncertain failing to clearly set forth the metes and bounds of the claimed invention. It is unclear whether the limitations following the phrase are part of the claimed invention. Applicant is suggested to remove the limitation "the possibility" from the claim. Claim 6 also recites: "an electrically controlled coupling". It is not clear if this is a different electrically controlled coupling than the previously recited on claim 1.

18. The following art rejection will be made as best understood by the Examiner in light of the above claim objections and 35 USC 112 rejections.

Claim Rejections - 35 USC § 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Liran (US patent 6,020,657).

As per claim 1, Liran teaches a method for providing continuous stable power to a load even if the power from the power source fluctuates or ceases, the method comprises the steps of rotating a flywheel at high speed to store kinetic energy and rotating a synchronous machine at a lower speed (col. 4, line 22); magnetically coupling the flywheel to a generator through an electrically controlled coupling (10) that is controlled by a controller (13, 14); monitoring the power to the load and correcting any power fluctuations to the load continuously by supplying controlled power to the electrically controlled coupling that can transfer an amount of the kinetic energy from the flywheel to the synchronous machine in order to provide stable power to the load (col. 4, line 22+).

As per claim 2, Liran teaches the step of using a motor to rotate the flywheel at high speed and to rotate a common shaft by the synchronous machine at about half the speed of the flywheel in order to minimize the rotating speed of the bearings (col. 10, lines 19-29).

As per claim 3, Liran teaches the steps of sensing electrical utility failure or electrical power fluctuations; if utility fails, disconnecting the load from utility and supplying the load with electrical power from the synchronous machine that gets its power from the flywheel thru the electrically controlled coupling; starting an engine/generator; checking the phases and when the phases coincide transferring the load to the engine/generator; when utility power restores, checking the phases and when the phases coincide transferring the load back to utility and stopping the engine; If the utility comprises a local engine/generator and the power to the load fluctuates, a control unit senses the fluctuations and continuously controls the electrically controlled coupling to transfer kinetic energy from the flywheel to the synchronous machine, thereby providing electrical power to the load (col. 2, line 28+).

As per claim 4, Liran teaches using the electrically controlled coupling comprising magnetic coils attached to a shaft that is connected to the synchronous machine and faces radially to the flywheel thru a small air gap (Figure 2).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liran in view of McSparran (US patent 5,153,475).

As per claim 5, Liran teaches transferring AC power from a stationary coil to a rotating coil but does not specifically disclose using laminated ferromagnetic sheets inserted radially or axially as two rings, into two opposite housings, a stationary housing and a rotary housing, and having a small air gap between the laminations with the stationary coil and the laminations with the rotating coil. However, McSparran teaches a magnetic coupling, wherein laminated ferromagnetic sheets are inserted radially or axially as two rings, into two opposite housings, a stationary housing and a rotary housing (col. 1, line 44+), and having a small air gap between the laminations with the stationary coil and the laminations with the rotating coil (Figure 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Liran's stationary coil/rotating coil arrangement with McSparran's laminated ferromagnetic sheets for the purpose of modulating magnetic flux without generation of excessive eddy currents.

23. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liran in view of Farkas (US patent 6,563,229).

As per claim 6, Liran teaches the synchronous machine rotating as a motor during normal operation, but at a lower speed than the flywheel, wherein an electrically controlled coupling exists between the flywheel and the synchronous machine; if the utility power to the load fluctuates or ceases, the electrically controlled coupling between the flywheel and the synchronous machine transfer kinetic energy from the flywheel to the synchronous machine, to maintain power to the load. Liran does not specifically disclose a coupling between the flywheel and an engine, the engine transferring

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continuous power to the flywheel, the engine using energy from energy sources being selected from the group consisting of: wind, water, geothermal, gas and diesel; the flywheel being turned at high speed using an electrical motor for normal operation and an engine during utility power failure. However, Farkas teaches coupling an engine to a flywheel (Figure 1), the engine transferring continuous power to the flywheel, the engine using energy from energy sources being selected from the group consisting of: wind, water, geothermal, gas and diesel (col. 6, line 36); the flywheel being turned at high speed using an electrical motor for normal operation and an engine during utility power failure (col. 7, lines 15-56).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Liran's flywheel arrangement with Farkas flywheel/motor arrangement for the purpose of ensuring and maintaining a proper energy level on the flywheel before and after a backup situation occurs.

24. Art of general nature relating to UPS systems has been cited for applicant's review.

Communication with PTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rios whose telephone number is (571) 272-2056. In the event that Examiner Rios cannot be reached, his supervisor, Brian Sircus may be contacted at (571) 272-2800, ext. 36. The fax number for Before-Final communications and After-Final communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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